



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

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L. Preston Bryant, Jr.  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4000  
1-800-592-5482

VWP Individual Permit Number 08-0572

Effective Date: April 1, 2010

Expiration Date: March 31, 2025

### **VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT**

Based upon an examination of the information submitted by the owner, and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341) and the State Water Control Law and regulations adopted pursuant thereto, the State Water Control Board (board) has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The board finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

**Permittee:** Appalachian Power Company

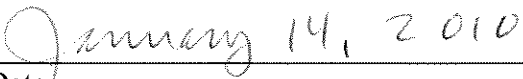
**Address:** P.O. Box 2021, Roanoke, Virginia 24022

**Activity Locations:** Smith Mountain Dam on the Roanoke River between Bedford and Pittsylvania Counties and Leesville Dam on the Staunton River between Campbell and Pittsylvania Counties

**Activity Description:** The discharge of water through hydroelectric turbines at Smith Mountain and Leesville Dams

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.

  
\_\_\_\_\_  
Director, Water Division

  
\_\_\_\_\_  
Date

*A. Authorized Activities*

This permit authorizes the following impacts as indicated in the application dated March 25, 2008, received by DEQ on March 27, 2008, and deemed complete by DEQ on May 2, 2008. The permit authorization and conditions are also based on additional submittals approved by DEQ.

1. The discharge of water from Leesville Lake to the Staunton River for the production of hydroelectricity.
2. The discharge of water from Smith Mountain Lake to Leesville Lake for the production of hydroelectricity.
3. The discharge of pumped water from Leesville Lake to Smith Mountain Lake for the purpose of storing the potential energy of the pumped water.

*B. Permit Term*

This permit is valid for 15 years from the effective date.

*C. Standard Project Conditions*

1. The activities authorized by this permit shall be executed in such a manner that any impacts to stream beneficial uses are minimized. As defined in § 62.1-10(b) of the Code, "beneficial use" means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.
2. Flows downstream of the project area shall be maintained to protect all uses.
3. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.
4. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.
5. All required notifications and submittals shall be submitted to the DEQ office stated below, to the attention of the VWP permit manager, unless directed in writing by DEQ subsequent to the issuance of this permit:

Department of Environmental Quality  
Office of Wetlands and Water Protection  
P. O. Box 1105  
Richmond, VA 23218

6. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if *both* criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.
  - a. The authorization is made in writing by the permittee.
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
7. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
8. Any fish kills or spills of fuels or oils into Smith Mountain Lake by the permittee shall be reported to DEQ immediately upon discovery to the West Central Regional Office Pollution Response Program at (540) 562-6723. Any fish kills or spills of fuels or oils by the permittee into Leesville Lake or the Staunton River shall be reported to DEQ immediately upon discovery to the South Central Regional Office Pollution Response Program at (434) 582-6236. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802

9. The permittee shall notify DEQ of any additional impacts to surface waters, including wetlands; of any modifications to the discharge works; and of any change to the type of surface water impacts associated with this project. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit.

*D. Instream Flow Conditions*

1. The following instream flow conditions become effective April 1, 2010.
2. The minimum release from Leesville Lake shall not be less than 375 cubic feet per second in terms of average hourly flow from November 1<sup>st</sup> through February 29<sup>th</sup> and 400 cfs in terms of average hourly flow from March 1<sup>st</sup> through October 31<sup>st</sup>.
3. The permittee shall conduct a study to determine the relative impact of providing streamflows through hourly auto-cycling compared to continuous releases. The study plan shall be developed in consultation with the Department of Game and Inland Fisheries, the Department of Environmental Quality, the Citizens for the Preservation of the River, and the Tri-County Re-licensing Committee. This study plan shall be submitted to the Board no later than March 1, 2009 for approval. The study shall be conducted in the reach of the Staunton River beginning at the base of the Leesville Dam and extending to the confluence with Goose Creek. The study shall be conducted for no less than one year with the final study schedule to be approved by the Board. The study plan shall be designed to investigate the potential effects of hourly auto-cycling releases on bank erosion, water quality, and fishery and benthic habitat, recreation, public safety, or other factors determined by the Board. The results of this study shall be submitted to the Board for making a final determination on the method of downstream releases. Should the determination of the Board, after it reviews the study, be that the permittee shall implement continuous flow releases, that will be deemed as mitigation. Should the determination of the Board, after it reviews the study, be that hourly auto-cycling continue by the permittee, the Board may require the permittee to implement other forms of mitigation, including stream restoration for those portions of the reach studied. If any of these mitigation actions are required, such actions shall be implemented by the permittee in accordance with a schedule approved by the Board.
4. Until the initiation of, and during, the study called for in D.3 above, a generating unit at Leesville Lake shall be operated on a one hour auto-cycling basis to provide the required flows. In case the generating units are out of service, the release may be made by spillway gate or other alternative methods available to the permittee.
5. The permittee shall run a forecast based simulation model at least once every three days and evaluate the probability of being at a certain elevation in the future. Trigger

1 will activate when there is a 20% chance of dropping below 790.5' (adjusted) in 16 weeks. Trigger 2 will activate when there is a 2% chance of dropping below 790' (adjusted) in 10 weeks. Trigger 3 will activate if Trigger 2 is in effect and the reservoir is less than 795' (adjusted) between December 1 and March 31, or anytime the adjusted elevation drops below 791.0' after September 30. All triggers are lifted if the elevation has reached 795' (adjusted) and there is less than a 2% chance of dropping below 790.5' (adjusted) sixteen weeks from that time.

6. To the extent that inflows allow, the permittee shall store additional water in Leesville Lake so that the adjusted storage shall be equal to 795.3 feet adjusted by April 15<sup>th</sup> of each year. The extra 0.3 feet of storage is intended to be used to ensure the success of the striped bass spawning run and need not be retained past the end of that run unless the permittee chooses to do so, while still complying with minimum instream flowby requirements.
7. The permittee shall release water at Leesville in an attempt to meet the target flows listed in the table below. Target flows are measured at the Brookneal gage, USGS number 02062500 and expressed in units of cubic feet per second. The permittee shall estimate tributary flows between Leesville and Brookneal when running the forecasting model and use such estimates in determining releases from Leesville when attempting to meet the target flows at Brookneal. The permittee will work with the Department of Game and Inland Fisheries to study the effect of the maximum releases identified in notes 5, 6, and 7 on the health of the fishery and provide a report to DEQ as part of the adaptive management condition E.2.

	Normal	Trigger 1	Trigger 2	Trigger 3
January	1100	990	990	770
February	1100	990	990	770
March	1100	935	825	770
April	1500	1275	1200	1050
May	1500 <sup>4</sup>	1275	1200	1050
June	900 <sup>1,5</sup>	765 <sup>2,6</sup>	765 <sup>3,6</sup>	630 <sup>3</sup>
July	700 <sup>1</sup>	595 <sup>2,7</sup>	560 <sup>3,7</sup>	490 <sup>3</sup>
August	See note 1	570 <sup>2,7</sup>	570 <sup>3,7</sup>	420 <sup>3</sup>
September	550	550 <sup>7</sup>	550 <sup>7</sup>	385
October	600	570 <sup>7</sup>	570 <sup>7</sup>	420
November	700	595 <sup>7</sup>	560 <sup>7</sup>	490
December	800	720	720	560

Notes:

1. Minimum release at Leesville of 650 cfs, in terms of an average hourly flow.
2. The minimum release of 650 cfs at Leesville will be made on Saturdays and Sundays and on Memorial Day, July 4<sup>th</sup> and on Labor Day for recreation. Appalachian shall time the release in an attempt to make it arrive at Long Island at 8 AM on Saturday and to subside at Brookneal at 8 PM on Sunday
3. A minimum release of 650 cfs will be made at Leesville for 12 hours timed to arrive at approximately sunrise at Long Island on Saturdays and on Memorial Day, July 4<sup>th</sup> and on Labor Day.
4. Upon notification by the Department of Game and Inland Fisheries that striped bass spawning is complete, the permittee may reduce releases and only be required to make release for the June normal target flow of 900 cfs
5. The maximum release that the permittee is required to release in attempting to hit the target flow at Brookneal is 700 cfs.
6. The maximum release that the permittee is required to release in attempting to hit the target flow at Brookneal is 650 cfs
7. The maximum release that the permittee is required to release in attempting to hit the target flow at Brookneal is 480 cfs

E. *Adaptive Management*

1. If required by operating emergencies beyond the control of the permittee, or when Trigger 3 events occur during drought or low inflow conditions, flows can be temporarily modified from those described in Section D upon mutual agreement between the licensee and DEQ, in consultation with the Virginia Department of Game and Inland Fisheries, following appropriate public input as determined by DEQ.
2. Within five years after the date that the instream flow conditions become effective, the permittee shall hold a public meeting in the vicinity of the project and accept comments on the performance of the project in maintaining lake levels and in providing flows necessary to protect instream beneficial uses. The permittee shall summarize the comments and provide them to DEQ along with any recommendations that the permittee might have. DEQ may, at its discretion, and depending on the comments, elect to exercise its right to reopen the permit pursuant to State Law and Regulation.

F. *Dissolved Oxygen Conditions, Monitoring and Reporting*

1. The permittee shall operate the turbines at Smith Mountain Dam from July 1st through September 30th in a fashion that will minimize or eliminate violations of water quality standards for dissolved oxygen in the tail waters below Smith Mountain Dam. During this time period, the permittee will dispatch the turbines with intakes that are highest in the water column first and take those turbines off line last when generating.

2. Within 120 days of the effective date of the permit, the permit shall provide for DEQ approval a monitoring plan designed to determine the timing and extent of potential contraventions of the water quality standards for dissolved oxygen in Leesville Lake caused by late summer and fall hydroelectric generation from discharges from Smith Mountain Lake. The monitoring plan shall include but not be limited to the location of monitoring stations and the frequency of monitoring.
3. Within five years of the effective date of this permit, the permittee shall provide DEQ a report on Summer and Fall Dissolved Oxygen Monitoring in Leesville Lake during Generation at Smith Mountain Dam. The report shall summarize the effects of power generation on Leesville lake dissolved oxygen levels.
4. If the first on, last off generation practices required by condition F.1, are not successful in eliminating dissolved oxygen contraventions of water quality standards caused by turbine discharge, the permittee shall submit a feasibility study and plan for physical or mechanical alterations of water release procedures that will eliminate violations of water quality standards for dissolved oxygen caused by turbine discharge from Smith Mountain Lake. The feasibility study will be due by December 31, 2015 unless the operational changes alone are sufficient to eliminate contraventions of the dissolved oxygen standard.

*G. Instream Flow Monitoring and Reporting Conditions*

1. The permittee shall monitor on a daily basis, adjusted storage levels in the project lakes, inflow to the project, downstream side flows between Leesville Dam and Brookneal and releases from the project to the Staunton River.
2. The permittee shall file an annual report with DEQ that tabulates by date, the status of the project in terms of the trigger condition in effect, the adjusted elevation, the mean daily release at Leesville and the target flow required by the table in condition D.5. The report shall be submitted by January 31<sup>st</sup> for the previous calendar year.

## **Part II – General Conditions**

### **A. Duty to Comply**

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

### **B. Duty to Cease or Confine Activity**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

### **C. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

### **D. VWP Permit Action**

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).
3. VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).



### **E. Inspection and Entry**

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

### **F. Duty to Provide Information**

1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

### **G. Monitoring and Records Requirements**

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
4. Records of monitoring information shall include:
  - a. The date, exact place and time of sampling or measurements;

- b. The name of the individuals who performed the sampling or measurements;
- c. The date and time the analyses were performed;
- d. The name of the individuals who performed the analyses;
- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

#### **H. Transferability**

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

#### **I. Property rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

#### **J. Reopener**

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially

changed, or special studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

#### **K. Compliance with State and Federal Law**

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

#### **L. Severability**

The provisions of this VWP permit are severable.

#### **M. Permit Modification**

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

## **N. Permit Termination**

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

1. Noncompliance by the permittee with any condition of the VWP permit;
2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
3. The permittee's violation of a special or judicial order;
4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

## **O. Civil and Criminal Liability**

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

## **P. Oil and Hazardous Substance Liability**

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

## **Q. Unauthorized Discharge of Pollutants**

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
2. Excavate in a wetland;

3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
4. On or after October 1, 2001 conduct the following activities in a wetland:
  - a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;
  - b. Filling or dumping;
  - c. Permanent flooding or impounding;
  - d. New activities that cause significant alteration or degradation of existing wetland acreage or functions.